CLAIMS

1.   Francis runner comprising a crown, a band and blades extending between said crown and said band, said blades defining between themselves channels for flow of liquid, characterized in that the angle (β_{24}) between the linear speed (U, D_{224}) of progress of one of said blades (2) and the median line (25, Δ_{224}) of said blade at the level of its trailing edge (22), has, in the vicinity of the point (224) of attachment of said blade on said band (4), a value included between 20 and 25°.

2.   Runner according to Claims 1, characterized in that, over the length of the trailing edge (22) of said blade (2), the angle (β_2) between said linear speed (U, D_2) and said median line (25, Δ_2) has a maximum value less than 34°.

3.   Runner according to one of Claims 1 or 2, characterized in that,   over the length of the trailing edge (22) of said blade (2), the angle (β_2) between said linear speed (U, D_2) and said median line (25, Δ_2) has an average value included between 20 and 30°.

4.   Runner according to one of the preceding Claims, characterized in that, over the length of the leading edge (21) of said blade (2), the angle (β_1) between said linear speed (U, D_1) and said median line (25, Δ_1) has a value included between 70 and 120°.

5.   Runner according to one of the preceding Claims, characterized in that the angle (β_{14}) between said linear speed (U, D_{214}) and said median line (25, Δ_{214}) has, in the vicinity of the point (214) of attachment of said blade (2) on said band (4), a value included between 70 and 120°.

6.   Runner according to one of the preceding Claims, characterized in that the overlap angle between the leading edge (21) and the trailing edge (22) of said blade (2) has, viewed in a direction parallel to the axis of rotation (X-X') of the runner (1):

- at the level of the band (4), a value (φ_{24}) less than 25°.
- at the level of the crown (3), a value (φ_{23}) less than 37° and
- on average, over the length of the leading and trailing edges, a value (φ_m) less than 31°.

7.   Runner according to one of the preceding Claims, characterized in that said band (4) has a meridian section such that its minimum diameter (D_{min}) over the central third (43) of its height (h_4) is less by at least 2% with respect to the diameter (D_{224}) of said band at the level of the points of attachment (224) of the trailing edges (22) of said blades (2) on said band.

8.   Hydraulic machine of Francis type equipped with a runner (1) according to one of the preceding Claims.

9.   Machine according to Claim 8, characterized in that it comprises a turbine delivering an equivalent power under high load (P_{11FC}), which corresponds to the power of the turbine at a working point (B) where the efficiency is less by 3.5% than the efficiency at the optimum working point (A), under one metre of head and with a runner outlet diameter of one metre, expressed in kilowatts, such that its ratio with the speed of rotation (N_{11}) of said turbine under the same conditions, expressed in revs per minute, has a value included between 0.16 and 0.175.

AMENDED SHEET